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As one of its major activities in carrying out its purpose, the Society publishes a monthly magazine, the Canadian Geographical Journal, which is devoted to every phase of geography—historical, physical and economic—of Canada, of the British Commonwealth and of the other parts of the world in which Canada has special interest. It is the intention to publish articles in this magazine that

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Richard Harrington photograph

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SPECIAL REPRESENTATIVES:

Ontario and Quebec: F. A. DALLYN

Toronto office — 21 King Street, E.

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Paddling Down The Red Deer River

by LYN HARRINGTON

Photographs by RICHARD HARRINGTON

LIKE a great meat-hook, the Red Deer River sprawls across the centre of southern Alberta, from the foothills to the great plains at the Saskatchewan border. Its length of 500-odd miles passes through diverse countryside, different ways of living, and their resulting mental attitudes.

A glacial stream, the Red Deer hurtles down out of the Rockies at the edge of Banff National Park, sluices through gravel bars to the rich black farmland. Then it winds through a deep canyon and into eroded clay hills. It curves through the black coal seams of the Drumheller Valley into the weird Bad-



The Red Deer twists through the Badlands, a refreshing streak of brightness. In the foreground is the twisting Sand Creek, with our tent on the bank.

Deer joins the South Saskatchewan River, and loses its identity.

We put our canoe into the Red Deer River at Sundre, a village in the foothills due west of Olds, and an outfitting centre for big-game hunters. Here the river bottom had been dredged to protect the underpinnings of the bridge. But the wayward current had flounced away from the man-made channel, and was seriously eroding the bank.

It was June, and the melting mountain snows had been augmented by heavy rains. So the water ran swift and milky with glacial silt over large rounded stones which scraped noisily on the bottom of the aluminum canoe. The canoe rasped through the coarse silt.

Uprooted trees were swept downstream, to come to rest on some gravel bar or silted shallow. The deflected current dropped more silt, while at the same time, it undermined a new spot. The canoe rode the rushing waters as serenely as the ducks, and as indifferent to the driftwood littering the surface. For driftwood travels at the speed of the current, and our paddles propelled the canoe considerably faster than that.

The Red Deer River near its headwaters is utterly unpredictable. At Garrington Ferry, we stopped to chat with the two ferrymen. The cable ferry was out of commission — as was every ferry all down the river — because the approaches were washed away. Two years before, they said, the ferry had three different landing spots, one after the other being ruined by the tumultuous rush of water. Last year's channel had been over there to the east. It was now a wide field of gravel, dropped by the whimsical river.

lands, and through ranchland that is semi-desert with short bunch-grass and spiny cactus. Four miles east of Empress, the Red



"The Thousand Islands", as the ferrymen called them, lay below. The men could not direct us, except "Keep to the main channel as much as you can, and you'll get through". It was excellent advice, but hard to follow, for which was the right channel? We had to make split-second decisions, for the current often ran at right-angles to the banks.

Throughout its length, whether through parkland or open country, the river is solitary. Farms extend to its edge, but there are few habitations along its banks. The river runs in a trough, mostly, and the sounds of tractors, trains, bawling cattle, all seem far off.

Close at hand were the intimate little sounds you hear on a wilderness river — the chatter of shallow rapids, the roar of deeper ones, the mewling of several different kinds of hawks, the gossip of flashy magpies, the twitter of swallows. One delightful aspect of canoe travel is the opportunity to observe wild life, and the Red Deer is a bird-watcher's paradise.

We must have missed many, such as the water-dipper, and failed to recognize many more. But we did note wrens, geese and ducks in scores, robins, phoebes, woodpeckers, flickers, kingfishers, sparrows, terns, gulls, sandpipers and plovers, and farther downstream, great blue herons and pelicans. A mallard mother led us away from her young. In a grassy stretch, pairs of ducks tiptoed away from their nests, and took flight some distance off.

But Canada geese showed the strongest protective instinct. One day we came upon a gaggle of geese, forty-nine in all, and of several ages. They at once began diversionary tactics. Some fled up the banks and out of sight amongst the low willows. Others dived, and came up on the far side of the river. A few took off, and headed upstream. But some leaders lured us on for perhaps fifteen miles before the last gander, with a derisive honk at our stupidity, beat back up the river to rejoin the group.

We saw several deer as well, their flanks gleaming red in the sunlight. The river was named the Waskesiu by the Indians, which

means the elk, but early explorers translated it as the "red deer".

And all along the river we came upon bank beaver. These western rodents have adapted themselves to living in large holes in the silt banks. Often their homes are screened behind dangling roots, from which the earth has been washed away. A little shelf of mud held the beaver, until he noticed us. Then, warning others within ear-shot, he would splash noisily into the water to safety.

By the time the river reaches the town of Red Deer, it is large and settled in its ways. It leads through mixed farming country, where the lowing of dairy cattle proclaims the occupation. About eight miles northeast of the town, the banks rise steeply, to form the celebrated Red Deer Canyon which runs for about sixty miles.

The canyon is almost inaccessible from above, since the banks rise to a height of five hundred feet, and are usually steep. Some sandstone walls are eroded in places till they resemble Aztec carvings. Here and there were colonies of swallows. Mud nests of cliff swallows, each with its little round opening, were clustered against the rock. Nearby a cliff of hard sand would be pitted with tunnels of bank swallows.

The river had carved a serpentine canyon through the prairie soil, now cutting away at one bank, then sweeping across to the other, leaving a flood-plain on the opposite side. Placid stretches alternated with rapids at each curve. In spite of white crests of foam, we found these rapids were not serious and could be run without difficulty. Happily, there is no need of portaging on the Red Deer.

The canyon was well known to the pioneer missionary, the Rev. John McDougall, who travelled its banks constantly, hunting buffalo, defending himself against hostile Indians, and preaching the gospel. He describes many adventures in fording the river by buffalo-skin coracle, by wagon, and on horseback.

Towards the foot of the canyon, the black seams of coal appear, with the accompani-



The waters of the Red Deer rise very swiftly overnight, but the aluminum canoe in which the trip was made was easy to handle.

ing bands of red shale. Old glory-holes and operating mines are seen near Ardley. Coal is dispersed all along the river, and outcroppings are visible all the way to Steveville.

Some of these seams will be covered before many years have passed, when the Red Deer Irrigation (P.F.R.A.)* project goes through. The project will consist of a dam on the Red Deer near Ardley, and a hundred miles of canal to two main reservoirs, Craig and Hamilton Lakes. The dam will contain installations to produce power for pumping, and the project will bring half a million acres under irrigation.

For one windy, rainy day, we stayed in our tent, not precisely certain where we

were, but sure we must be near a railway. The whole day passed without sound of a whistle, or any other indication of a train. Next day brought the explanation. The steel rails of the Content bridge hung in space.

Great chunks of spring ice had ripped out the piling, and torn down the bridgework. We found pieces downstream for the next hundred miles, carried by ice or by freshet. Ties and planking were being retrieved for fuel by people living along the river, who depend on driftwood for their stoves. Heavy rains sweep large trees, buildings, or bits of wood from the river bank. The river rises swiftly, we learnt next morning, thankful that we had pulled the canoe higher than usual and tied it to a tree.

* Prairie Farm Rehabilitation Administration

The days of rain had one good effect, for at Trochu the ferry had grounded out in midstream, and the two-foot rise in the water-level enabled the attendants to winch it in close to shore. The Morrin Ferry approaches were flooded, and Munson was in similar state. The area around Munson is "protected" against ardent souvenir collectors, who are warned not to carry off any fossils. But oil prospectors have recently put down test drills here, as in other parts of the province of Alberta.

Kirkpatrick, Nacmine, Newcastle and Drumheller fronted the river farther down. Drumheller is the only town of any size, and its flower gardens are remarkable in a setting of desolate hills. Peter Fidler, back in 1792, noted coal seams at the mouth of the Rosebud Creek, and a considerable industry has grown up since. And with it, an outlook quite distinct from the farmers farther north, and the ranchers to the south.

The banks near the coal-mining villages were lined with people, since it was the first day of vacation both for miners and their schoolchildren. Many were fishing for firewood from the shore. Others simply stared. A canoe is still something of a novelty in the prairie province. But this interest in the aluminum canoe was simply incidental to concern lest the Red Deer flood their homes. It had already reached the sixteen-foot mark on the Drumheller bridge. But by the following day, the flood suddenly dropped, leaving continuous muddy banks as it shrank.

Below Drumheller, the land quickly reverted to grazing country, and the grassy hills were studded with red-and-white cattle. Often they sighted the canoe with horror, then stampeded. Horses, on the contrary, crowded to the water's edge for a better look at the phenomenon.

At Dorothy, we found the ferry not only out of business but out of sight. It had been





Cable-ferries such as this one at Munson, serve traffic crossing the Red Deer, for there are few bridges.

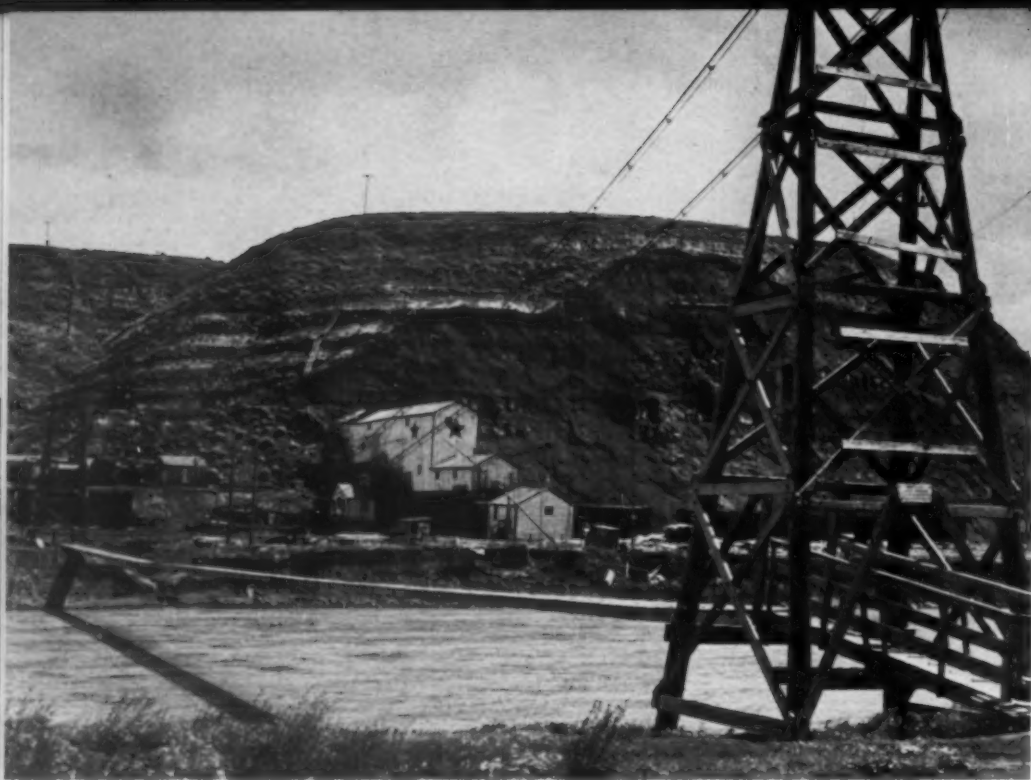


Drumheller is built on the flood-plain of the Red Deer River, which still threatens it each spring break-up.

wrenched from its moorings the previous night, and we came upon it stuck on a silt bank eight miles downstream. Traffic was nearly immobilized, since the Red Deer has relatively few bridges, and the rain had turned the prairie trails into quagmires. Farmers on the western side of the river could not haul grain to the elevators on the east side.

But lack of a ferry didn't hinder the cowboys. Half-wild horses were being herded across country in time for the Calgary Stampede, and mounted cowboys whooped and yelled, urging their reluctant charges to take to the water. These eventually plunged in, and reached the western bank in spite of being swept downstream some distance. One cowboy had to swim for it, and another had to take himself hand-over-hand on the ferry cable, when his horse refused to bear his weight. But all made the crossing safely, and the horses whinnied and rolled and shook themselves for half an hour afterwards.

Farther south in the Badlands, nothing grew on the hills but tufts of sagebrush, like



A swaying foot-bridge leads across the Red Deer from Rosedale to the Star Mine, where coal is mined.

a candlewick bedspread. The yellow flowers of prickly pear cactus grew in massive clumps everywhere. Only at the water's edge were trees, mostly willow and cottonwood.

At Steveville Ferry, the mud had washed back into the road to a depth of twelve inches and for a hundred yards back. We inquired here about Dead Lodge Canyon, where the famous Sternberg family carried on excavations of dinosaur bones in the first quarter of this century.

"Dead Lodge Canyon?" repeated the ferryman thoughtfully. "That's a new one on me."

And indeed, it would be difficult to pinpoint the description in the maze of ravines and canyons and watercourses of that tumbled eroded country. However, we found

Sand (now Little Sandhill) Creek, where Dr. Barnum Brown of the American Museum of Natural History, had carried on his excavations at the same period.

An island of silt somewhat obscured the entrance to the creek. High water allowed us to canoe up several curves, and we pitched our tent on the flat dry ground, taking care to avoid cactus. There were no longer spruce trees to provide a mattress.

But we were soon reminded that we were intruders. A flat tail slapped disapproval, and we saw a beaver swimming up the winding creek, his tail acting as a rudder. Beaver were numerous, we noted from the tent opening. The muddy banks held their webbed tracks, as they clambered up to examine a stick and stayed to nibble the bark. It was a pleasant campsite, intimate,

Cowboys herd a band of nearly 300 half-wild horses across the Red Deer River, on their way to the Calgary Stampede.



PADDLING DOWN THE RED DEER RIVER

warm, not too exposed to the wind. An overflow, rather marshy in fact, provided water for making tea, for the river water was much too muddy. Bits of dried poplar made good firewood.

Best of all, we were in the midst of the Badlands, the graveyard of the dinosaurs, those fantastic clay hills whose strata hold the fossilized bones of prehistoric beasts. We were fortunate that the hot sun dried out the surface of the clay. For wet clay is as slippery as soap, and clings to the feet in great clumps that harden like concrete. Walking still called for care, since the dried surfaces were sometimes treacherous.

We strolled up the grassy fields through the spear-grass and bunch-grass and cactus, amongst dried weed pods that rattled menacingly. (The only snake we saw was not a rattler, however.) Amongst the unnamed pillars and hoodoos and strange formations, the coulees crisscrossed, ran into one

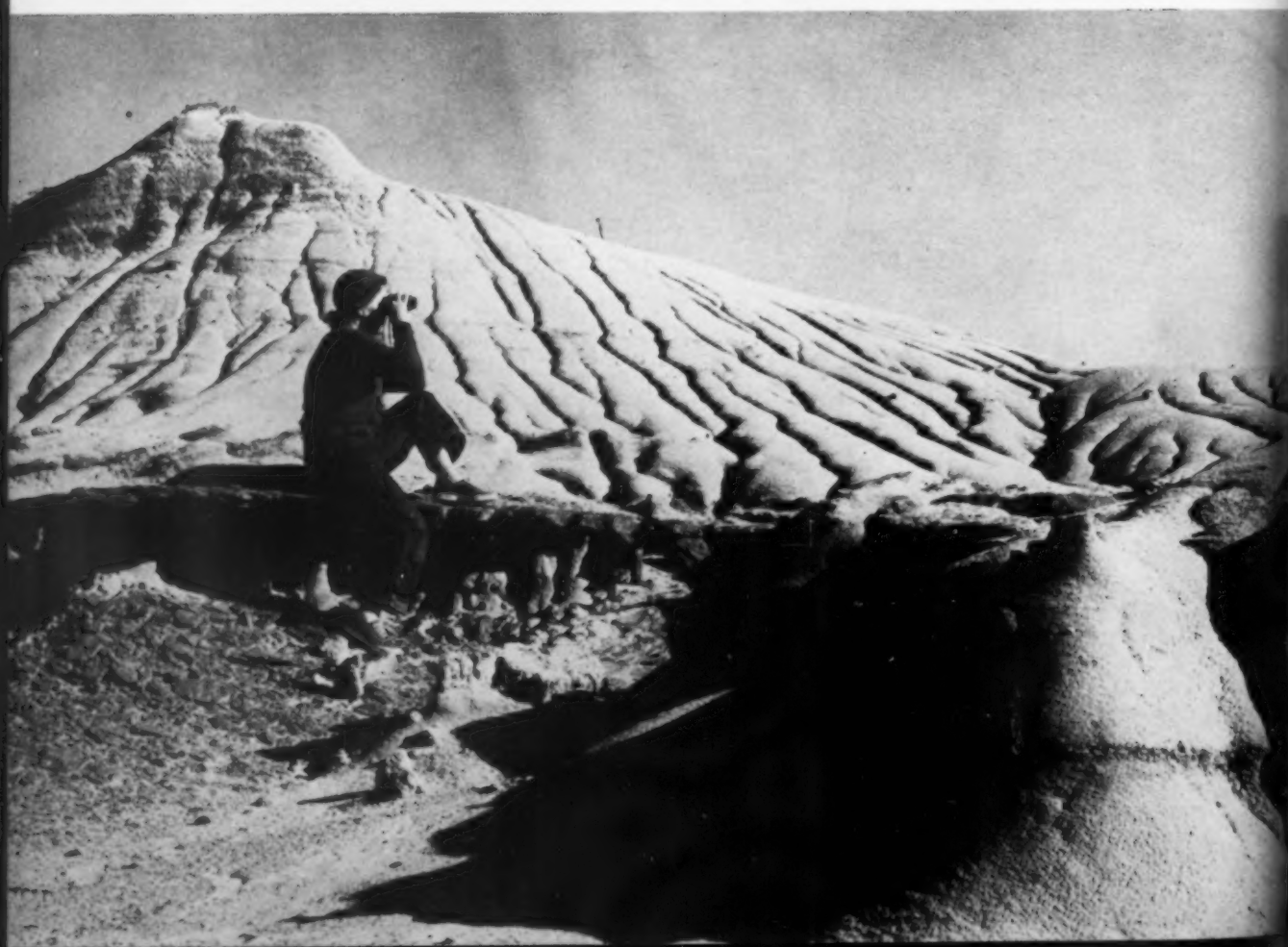
another from all angles in hopeless confusion. Here and there came the sound of dripping water, from holes sunk through the clay. In one valley was an eagle's nest.

From a tall mound, we looked out over square miles of eroded hills and gullies, as far as eye could see in all directions. The only life was the river twisting through the forlorn, yet starkly beautiful, country. There was just the clay, dotted with sagebrush or juniper, marked with horizontal bands of sandstone. Here and there we came upon petrified trees lying in the clay, and petrified bone was commonplace. Naturally, our untrained eyes did not see any huge skeletons lying about. But strangely enough, at the top of a clay hill, we found a solitary fossilized vertebra, about a foot in diameter — whose, we couldn't say.

"Although black fertile soil forms the surface of the country," wrote Dr. Brown in 1919, "the earth below is composed of hori-

After crossing the river the horses mill around, shaking themselves, before starting overland to Calgary.





PADDLING DOWN THE RED DEER RIVER

Top left: The Badlands spread over square miles in every direction, a medley of clay, sandstone, bog iron and sand.

Bottom left: Constant erosion by wind and water change the appearance of the Badlands, with runnels streaking the landscape.

Layers of different formations appear throughout the Badlands.





Below Dorothy, we enter the real Badlands, where only sagebrush grows on the clay slopes, with cottonwoods on the river islands.



Yellow flowers of the prickly pear cactus do not last very long, but the spines are extremely durable.

zontal layers of clay and sandstone, and a journey of 250 miles down the river reveals four distinct geologic periods in the canyon walls . . . In no other part of the world have so many Cretaceous dinosaur skeletons been brought to light . . . Erosion is rapid, and as the river continues to wear its banks away, new fossils are exposed. Under miles of prairie lands, the same strata are undoubtedly filled with similar fossils . . . For all time to come, this will be a classic locality for collecting prehistoric specimens.”*

Sand Creek is a place to explore for days on end, if one has the necessary background knowledge, and we left it reluctantly. The Red Deer River, now seeming enormous by contrast, led on through more Badlands with cattle scattered here and there, where ranchers made big money in a good year, or lost everything in a bad one. The famous

* National Geographic Magazine, May, 1919.

PADDLING DOWN THE RED DEER RIVER

V Bar V sprawled in the sunset at a curve, its well-kept buildings reminiscent of a Technicolor Western. Two men on shore watched in amazement for a time. Then, when we had passed, they shouted across the water, "Why don't you stay at the ranch tonight?" It was not a query, but an invitation, we realized too late.

By now we had passed heronries, and watched pelicans on a silt island. The light failed, and the muddy shores looked unpromising. So we pressed on to the ferry, hoping it would be on high land, but it had been flooded, too. The ferryman was delighted with the idea of company. He found a dry spot for the tent, made hot coffee, and insisted next morning on giving us a full-course breakfast. Such is western hospitality, from wealthy rancher to lonely ferryman.

The final day of a canoe trip is seldom outstanding, perhaps because of a state of mind. In this case, the terrain was flat wheat-farming country, through which the river twisted interminably. Under a broiling sun, mirages

shimmered on the plains. We tried a swim, but the water was surprisingly cold.

The sky had turned from rose to purple to dull grey by the time we reached the bridge at Empress, four miles above the low marshy junction with the South Saskatchewan, where the Hudson's Bay Company once had a trading post.

Caching the canoe under the bridge, we walked in to town. The contrast was too startling. After the silence of the last two weeks, the intimacy with birds and beaver, we found Empress too noisy and harshly bright. We scurried back to the river, set up the tent for the last time under a half-moon and flaring Northern Lights, and sleepily heard the far-off yapping of coyotes.

The Red Deer is strictly an Alberta River, and one of the most pleasant to follow by canoe. But it is more than just a river journey, with rapids and shoals and flood-plains. It is a review of the life of Alberta today, with occasional backward glimpses of the the Alberta of yesterday.



This concrete replica of a Brontosaurus in a Calgary park accurately duplicates the great beasts which once roamed the country where their bones are found today, the Badlands of Alberta.



View from the Guest House on St. Martin. The three Windward Islands have Guest Houses under government control, but their accommodation is very limited, being primarily for the use of visiting officials.





The Netherlands Windward Isles

by MADGE MACBETH

THE TERRITORY of the Dutch West Indies or Netherlands Antilles as it is officially called, comprises six islands in the Caribbean. The three largest are the ABC group — Aruba, Bonaire and Curaçao — some forty miles north of Venezuela. From the central government at Curaçao the islands are administered.

The three smaller, less important but more picturesque Dutch possessions, form the Netherlands Windward* group and lie in the northeastern corner of the Caribbean, five hundred and sixty-five miles away. They are St. Martin (or Maarten if you are Dutch), St. Eustatius (or 'Statia if you are local) and Saba whatever you are.

All added lustre to Christopher Columbus's crown.

The names Leeward and Windward refer to the position of the islands with respect to the northeasterly trade winds. Continuously, save for a few weeks in the rainy

season, they temper the heat of an ardent sun and make an otherwise unbearably hot climate distinctly enjoyable. The mercury hovers around 80° at sea level, but in higher altitudes — in Saba, for example — a blanket is very comfortable at night.

St. Martin, discovered on that Saint's day, is the largest of the Netherlands Windwards, but its thirty-seven square miles are shared with France. Only the southern section belongs to Holland. A story goes that many years ago in an effort to settle a boundary dispute, a Dutchman and a Frenchman started to walk around the island in opposite directions. The territory covered by each man would become the property of his country. The Frenchman covered more ground but the Dutchman managed to include in his stroll the valuable salt ponds. Both sides were satisfied. Furthermore, each side tried to give its opposite *more* territory, not less; a circumstance

* Though St. Martin, St. Eustatius, and Saba are known to the Dutch as the Netherlands Windward Isles (from their position relative to the ABC group) they lie within the chain of Lesser Antilles commonly called the Leeward Islands.

Opposite:—A scene in the spotless main street of Philipsburg, capital of the Dutch section of St. Martin.



A view of Marigot, capital of St. Martin's French section. Its municipal buildings look quite unlike those in Philipsburg, the Dutch capital, which is very orderly and neat.



The schooner Blue Peter, built in Noetia, provides the only link between Saba and other islands visited by a large cargo vessel.

scarcely credible considering the grasping practices of today. After three hundred years of amicable sharing, a group of top-ranking officials from each section climbed to Mount Concordia to sign a document legally fixing the boundary which is marked by a modest monument.

Why the signatures would not have been equally binding if affixed on the level, no one seems able to explain.

Of the three Windward Islands, St. Martin is easiest of access. It has a sturdy little dock and it has Juliana Airport with a 3,400-foot landing strip. Some visitors charter planes and small boats to make the journey from the British West Indies; probably St. Kitts. Some fly in from Miami or Puerto Rico, but the most comfortable and direct transportation is by K.L.M. from Curaçao.

There are no customs or immigration formalities. Visitors are made to feel very welcome, and while there is a little competition among the taxi drivers, it is flattering rather than disagreeably demanding.

The drive to the capital, Philipsburg, where most of the fifteen hundred inhabitants live, takes you through hills that

open suddenly to present lovely vistas of the sea, and landlocked harbours with enticing bathing beaches. The finest of these is at Simpson Bay near which a small white settlement engages in lobster fishing. Lobsters are taken with spears in St. Martin, not with the gloved hands as is the case in Bonaire.

On the crest of a hill, you will see a tower which during the war housed a powerful radio station. Messages were relayed from Curaçao to Holland and vice versa. When short wave transmission came into use, there was no further need to relay messages and the tower is now merely a picturesque feature of the landscape.

The islands are connected with each other, indeed with nearly all parts of the world, by radio telephone, so they are not so remote, after all. Ordinary public 'phones are free and those in homes are of the ancient type operated by turning a handle.

Driving along the excellent, paved road, the land looks dry, especially between January and April, but it is not unproductive given a little patience. The Government maintains an Experimental Farm in St. Martin and at the last Exhibition, a hun-



in Nova Scotia and once called the Manitou. It Saba and other islands except for a monthly y a large vessel.



The landing beach at St. Eustatius. Warehouses and waterfront buildings stood here before Admiral Rodney sacked the island, since when the population has dwindled to less than 1,000.

dred varieties of native fruits and vegetables were shown. The truth is that men prefer the easier money made in the oil refineries at Aruba and Curaçao. With what they send back to their families, imported food is bought and during the last decade the population has become allergic to farming.

Even the Dutch farmers Holland has sent out soon abandon the land for industry.

Two hundred years ago, St. Martin enjoyed a prosperous life. Between 1650 and 1750 it was considered the most valuable property owned by the Netherlands West India Company. Salt which had first attracted Dutchmen to the islands — they needed it for their herring industry — attracted men of many other nations, and for years the harbour was filled with ships doing a brisk trade. Canadians bought salt in St. Martin, too, for there was fish in Nova Scotia that needed curing. It was the prohibitive import duties imposed by other countries that brought about St. Martin's decline, and abolishing the slave trade did not help, either.

St. Martin lies in the path of hurricanes and has suffered terrible damage throughout the years. No ruins remind you of this grim

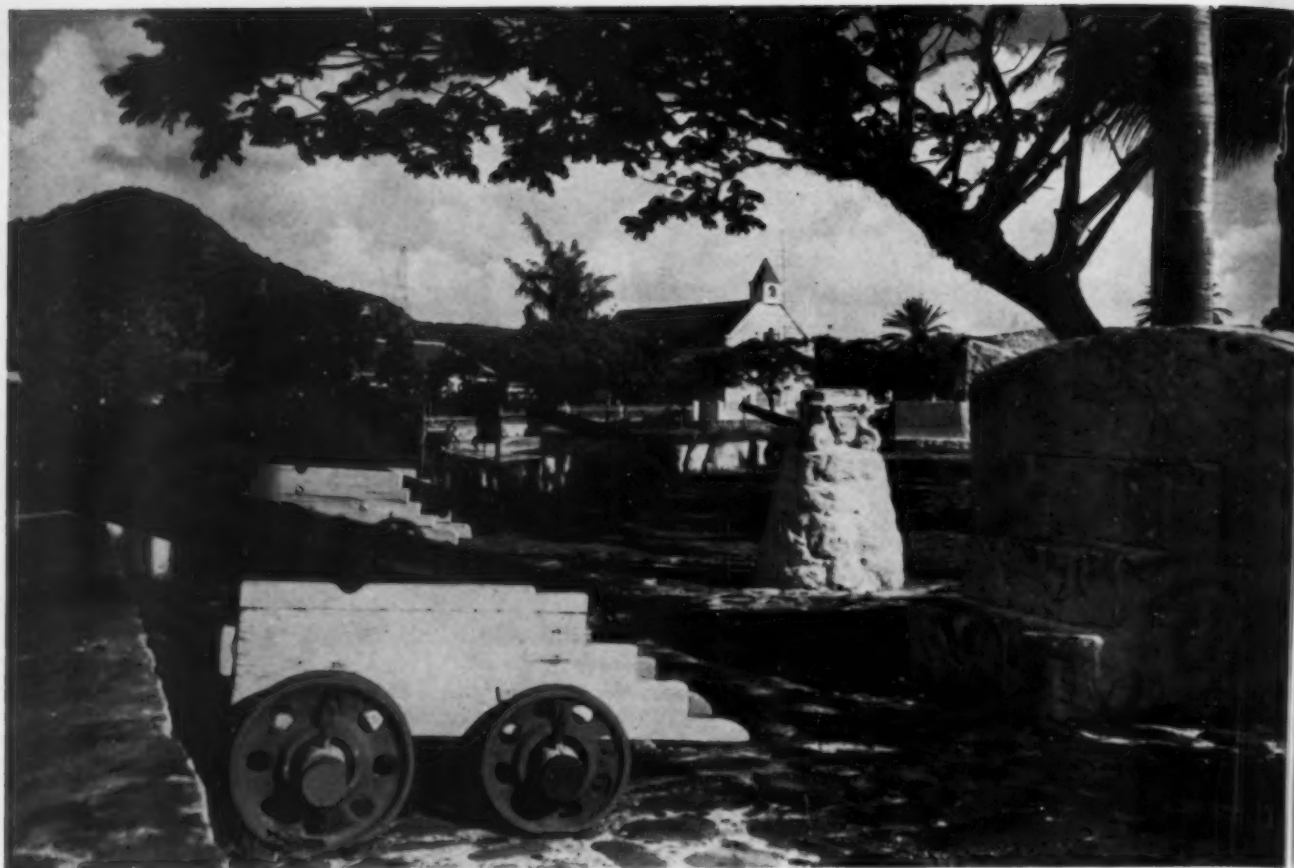
fact. It is the new, more solidly-built structures that tell the story. Houses are not so typically old Dutch as in Curaçao, but they all have atmosphere, all are neat and clean and most have red corrugated iron roofs.

In addition to bathing, sailing and fishing, riding is a popular pastime. Fine little race horses are bred on the island, mostly in the French section. They are exported to other West Indian islands and are quite highly esteemed in sporting circles.

The drive to Marigot, St. Martin's French capital, is interesting by reason of the contrast between the two sections. Once past the boundary, the road is not so good, the architecture changes and a certain carelessness seems apparent in the attitude of the people. The French language replaces Dutch and whites seem to be in the minority.

There is a hospital in Marigot, high on a bluff above the town, and there is a resident doctor, but no dentist. A delicate looking, dusky little lady arrives to groom the native teeth every month or so.

Marigot does quite a brisk business in delicious French wines. It also makes a powerful drink out of the native guava



Part of old Fort Oranje in St. Eustatius. The monument on right commemorates the first salute of the Stars and Stripes, said to have been fired by the cannon in foreground. The home of the then Governor, Jacob de Graaf, still standing in the grounds, is now a museum; Admiral Rodney probably spared the building as a residence for himself.

berry. Said a hospitable shop keeper to the writer of this article:

"Taste it! I've had it fermenting for about six months and if it's too strong, I'll dilute it for you with a glass of RUM!"

The most logical way to reach St. Eustatius is by the *Blue Peter*. There is a tiny, two-seater, privately owned plane that makes a weekly trip from St. Martin, but it might be considered a trifle rugged by any save the more venturesome travellers.

'Statia has no landing strip — the plane sets you down in a stubble field — and it has no dock. Arriving by sea, you are rowed from your ship to the beach. An excellent beach. Not a stick breaks its emptiness.

The lack of a dock, of warehouses and other waterfront buildings proclaiming the island's prosperity in bygone days, is blamed on the British Admiral Rodney. St. Eustatius, sympathizing with the American

Colonies in their fight for independence, ran contraband for them. Historians declare that but for this fact, the outcome of the struggle would have been very different. But supplying guns and ammunition constituted an enemy act in Rodney's eyes and when in 1776, Governor Jacob de Graaf ordered a salute to the Stars and Stripes flying from a ship in the harbour — the first official recognition of the United States — our British Admiral decided to do something about it.

He sacked and burnt the town so thoroughly that rebuilding it has never been considered feasible. In the British House of Commons, the attack was branded as "a disgrace". St. Eustatius' less than twelve square miles are spotted with ruins — beautiful ruins, too — and it is difficult to realize that once the island was called The Golden Rock, not only because gold was

THE NETHERLANDS WINDWARD ISLES

found there but because all of her enterprises were so successful.

She was a dumping ground for slaves, traffic in whom Sir John Hawkins pursued with such vigour and competence. His slaves were distributed throughout most of the West Indian Islands. Their descendants quite often outnumber the white population with whom they compete successfully for positions of responsibility and importance. Inter-marriage is quite common.

Like the other islands, 'Statia imports most of her food. Her typical drink is a concoction called 'Miss Blyden'. Just why, is not recorded. Maybe a Miss Blyden invented it. Maybe she drank too much of it. The ingredients are hard to identify for every family has its secret receipt. However, a little goes a long way, which is more than the drinker of Miss Blyden can do.

Saba! The speck of rock rising precipi-

tously from the sea, twenty-nine miles from St. Martin, nineteen from St. Eustatius, that was once a roaring volcano and whose capital, nearly a thousand feet above sea level is located in the old volcano's crater and called The Bottom! A saying goes that whoever sets out to visit Saba always goes to The Bottom.

Saba, whose area is less than five square miles and whose population of about a thousand souls consists almost entirely of women. Saba, so English that the learning of Dutch has been made compulsory in the schools. Saba, where courtesy is still in fashion and where helpful neighbourliness is as natural as breathing.

The approach to Saba is an adventure in itself. Not only is there no landing strip, no level stretch larger than a tennis court, no dock but there is no beach! You are taken from the *Blue Peter* in a clumsy, heavy row boat to Fort Bay or Ladder Bay accord-

This is The Bottom, capital of Saba, built in the crater of an extinct volcano, high above the sea. Walls line every street and were built by slaves, without the use of mortar. Saba is a land of steps but the island's horses and donkeys are well able to negotiate them.



ing to the wind, and the actual landing is reminiscent of entering Capri's Blue Grotto, where expert oarsmen seem to sense the split second in which to drive their craft through the narrow opening. At Saba, to miss the exact wave that will carry you out of the sea onto the sloping rocks would be disastrous. The boat would be sucked back into the surf and most certainly overturned; and there is no land immediately beneath. The water is fathoms deep. So you cling to the slippery gunwales, duck the heavy spray and think hopefully, like *The Lotus Eaters* . . . "This mounting wave will roll us shoreward soon . . ."

Somehow, it does, and if you land at Fort Bay, a jeep will rattle you over a recently laid concrete road to The Bottom. If the landing has to be made at Ladder Bay, you will walk five hundred and fifty steps to the Capital, unless you prefer to ride a donkey or a horse.

Just as Saba is a land of women, so it is a land of steps, and animals as well as humans think nothing of climbing hundreds at a time. Steps and walls were built by slaves and both are in fairly good condition.

The early history of Saba is sufficiently clouded to be challenging. The most illuminating archives, you will be told, are stored, of all places, in Boston! However,

one theory suggests that the island was discovered and settled by pirates operating in the Spanish Main. They used its difficult and dangerous bays as hiding places, and later brought out their womenfolk to make homes for them. If there were occupants already on Saba they made no effort to hold it and no serious struggles for possession have been made, as is proved by the absence of fortification of any kind. It is said that unwelcome visitors were easily discouraged when the settlers rolled great boulders over the cliffs on them.

It is hard enough to land on Saba under the most hospitable conditions. It would be utterly impossible in the face of opposition.

Some Sabans believe that when professional buccaneering fell into disfavour, men of British ships brought their families to the island they knew so well. An interesting visitor in those old days was Morgan, uncle of the famous pirate. There is no record of his ever having lived there.

English and Scottish names are common; and Scandinavian ones are not lacking. Certainly, a company of Dutchmen settled in Saba. They were expert cobblers and their shoes were famous through most of the West Indies. Today, there is only one cobbler left. She is a woman.

From earliest times, however, Saba's



Some houses in the village of St. John, a few thousand feet higher than The Bottom. The lush verdure on Saba is in marked contrast to the dry appearance of St. Martin and St. Eustatius.

The landingplace at Fort Bay, Saba. The Harbour-master's house clings to the hillside and the row-boats are being launched to take passengers from the Blue Peter.



men have taken to the sea, and too often the sea has taken them. Numbers of them became masters of their own ships and their reputation in seafaring circles was that if a man came from Saba, he was bound to be good. During the war, many served as high ranking officers in the U.S. Merchant Marine, and today several captains and officials of such lines as the Grace and Alcoa are natives of Saba.

The island counts fourteen retired sea captains among its citizens. After seeing the world, after experiencing the so-called advantages of civilization, they have come home to spend — end — their days in little Saba.

What does Saba offer if you are not a retired sea captain whose roots have somehow managed to gain a hold in the rocky soil?

If you are an ornithologist, there are plenty of unfamiliar and interesting birds. If you are a botanist, there are masses of shrubs and wild flowers. Mount Scenery, the highest peak, is rich in orchids. In the spring, all the hills are ablaze with gorgeous lilies, oleanders, hibiscus. If incomparable seascapes please you, the days will be crowded with delight. If you are a hiker, few places offer what Saba offers; and if you are timorous, you may rest assured that there are no wild animals more dangerous than a rabbit, and there are no snakes.

Any inhabitant of the four villages — The Bottom, St. John a little higher up, Hell's Gate near which there is, appropriately enough, a hot sulphur spring, or Windwardside, eighteen hundred feet above sea level and the only village predominantly white—will give you welcome if not something more substantial. Everyone wishes you good day as you meander about. At the Government movie, shown outdoors every fortnight or so, you will be offered a seat; either a convenient stone or a chair that the owner has intended to use herself. At the commercial movie house, friendly consideration will be shown you. Women of an older generation still make a sort of lace — actually drawn work — that brought them a few guilders when money was not so plentiful as it is today, when the men working in Curaçao or Aruba send a generous part of their wages home.

There is very little beyond food to buy in Saba.

The visitor to the Windward Islands gets the impression that their future lies behind them; that any highlights illuminating the days ahead cannot burn so brightly as those in the past. The visitor also gets the impression that the inhabitants are content that this is so. They do not exactly stagnate. They just live at peace with life.

This is an art not always taught by civilization.



Cayuga and Seneca or "pagan" Iroquois of the Six Nations Reserve burning their sacred tobacco on a small fire, while their chief Deskarhee (Alex General) prays to their Supreme Being.

Tobacco, A Peace-maker

by MARIUS BARBEAU

Photos by the author unless otherwise credited.

TOBACCO IS A FAMILIAR weed to us all; its uses have long made it a household article and to many people an essential of life. So spectacular has been the story of its spread away from its American sources, that a grave anthropologist — Barthold Laufer — was moved to enthusiasm when declaring:

"The world-wide diffusion of tobacco is one of the most interesting phenomena in the recent history of mankind. Within three centuries tobacco has firmly established itself as a universal necessity. Great industries have developed around it." Linton, another anthropologist, finds it "one of the outstanding gifts of the New World to the Old".

And Laufer concludes in a lyrical vein, which may sound surprising to the old-fashioned minority that still holds itself aloof: "Of all the gifts of nature, tobacco has been the most social factor: peace-maker, benefactor . . ."

Whether moralists like it or not, the diffusion of tobacco is a unique cultural feature,

exceeding in speed, extent, and intensity, all others of its type, even that of the corn and the potato. It has given rise to economic developments of considerable size and vast ramifications on all the continents. There can be no doubt as to its importance from the first as a social factor.

To realize this to the full one must look into the story of tobacco retrospectively, for it is not as well known as it might be.

Tobacco, in many quarters and for generations, has always been an object of reproof and condemnation. For instance, John Nairne, Seigneur of Murray Bay, on the lower St. Lawrence River, wrote to Jack, his eldest son in the British garrison at Gibraltar: "All our Family have ever been temperate, not even falling into Debauchery of smoking tobacco, a nasty Dutch, Damn'd custom, a forerunner of idleness and drunkenness; therefore Jack, my lad, let us hear no more of your handling your Pipe . . ."

Nor was Nairne by any means an excep-

tion on either shore of the Atlantic. The Great and General Court of Massachusetts, for instance, at one time ordered "that no person should smoke tobacco in public under a penalty of two shillings and six pence, nor in his own house with a relative or friend. But everybody smoked who wanted to, even the maids, and the repressive litigation in time met the usual fate of similar efforts to restrain individual liberty and manners."¹

Within the Canadian borders, as far west as the Rockies, tobacco was well known to the natives, particularly to the Huron-Iroquois tribes who cultivated one of its varieties. From earliest times it was customary for the representatives of two nations coming together at the frontier to smoke the calumet as a symbol of peace. And the French settlers on the St. Lawrence took to tobacco and its domestic uses as quickly as the Spaniards had, even earlier, in the American regions farther south.

¹ *Every Day Life in the Massachusetts Bay Colony*, by George Francis Dow, p. 63.

² *Pipes and smoking customs of the American aborigines . . .* By Joseph D. McGuire. Smithsonian Institution, 1899, p. 361.

Indian or sacred tobacco, cultivated for ceremonial purposes by two Cayugas—Fish, and Jacob—on the Six Nations Reserve.

The calumet (tobacco pipe) dance or *danse du calumet* of the North American Indians, for nearly three hundred years, was an essential feature of all diplomatic relations between the Indians and the white people in charge of government and the fur trade. The early explorers and voyageurs have described the use of tobacco and pipes in all treaties, councils, and in functions of every kind, in social intercourse, prayers and offerings to the spirits of nature, and as a cure for disease.

But the use of tobacco then was restricted to ceremonial and ritual functions. As McGuire, of the Smithsonian Institution, points out: "There is no doubt that tobacco smoking in pipes such as are now familiar to us, as a habit or pastime, is an invention of the European."²

Samuel de Champlain, in his *Voyage of 1615* up the Ottawa River, gives two typical descriptions of the Indians using tobacco.

Fish impersonating a False-Face (a wild spirit) singing to the rhythm of a turtle-shell rattle, in his tobacco patch.





A Plains Indian of the 1830s with ceremonial pipe.
B.C. Archives

and that thereby they are secured against their enemies; that otherwise misfortune would happen to them. When he has finished, the orator takes the plate and goes and throws the tobacco into the middle of the cauldron, and all raise a loud whoop."

The Tobacco People, a Huron-Wyandot sub-nation, was described by Champlain as "a tribe which cultivates this herb, in which they have a great trade with other tribes."⁵

The Senecas, another Iroquoian nation, used native tobacco as a burnt offering to the Great Spirit, until about seventy years ago or even less. Once a year, in mid-winter, the sacrifice of the white dog — a special variety of dog was raised for this purpose — took place in the early morning, when the animal was cremated on a pyre of ash wood. From a small basket made of corn shucks containing sacred tobacco, the head chief would throw some pulverized tobacco on the fire and pray to the "Father" or the Sun, while the people sang ancient ritual songs. The soul of the dog and the prayers were carried into the sky by the tobacco smoke rising from the fire.

Even to the present day, the Cayugas and Senecas upholding the Handsome-Lake doc-

⁵ *Ibid.*, Vol. VI. p. 248.

"When the smoking ceremony was over," he wrote,³ "then each of those who stayed (inside) began to fill his pipe, and one after the other offered them to me, and we spent a full half-hour in this exercise without uttering a word, according to their custom. After having smoked plentifully during so long a silence I explained to them that the object of my journey was to assure them of my affection and of my desire to aid them in their wars."

Tobacco was also used by these Indians, unburnt, as an offering to the Spirits. Champlain described this occurrence on the same voyage:⁴ "We arrived at the Chaudiere Falls on the Ottawa river, where the Indians held the usual ceremony. Having carried their canoes to the foot of the fall they assembled in one place, where one of them took up a collection with a wooden plate and each canoe man put into it a piece of tobacco. After the collection is made, the plate is set down in the middle of the group and all dance about it, singing after their fashion. Then one of the chiefs makes a speech, pointing out that for a long time they have been accustomed to make such an offering,

³ *Voyages du Sieur de Champlain*. Champlain Society. Biggar. Vol. IV. p. 182.

⁴ *Ibid.*, Vol. IV. p. 200.

"Cecile Crapau", *Montagnais woman, Seven Islands, Quebec.*
Paul Provencher.



"Canadian on snowshoes going to war". An ancient, undated engraving.

trine at the Six-Nations Reservation near Brantford, Ontario, and on the Allegany Reservation, New York, still cultivate their ancient variety of sacred tobacco and use it in their ceremonials.

Although tobacco was used far less extensively in the northern Rockies and Alaska than elsewhere, it also formed part of most palavers connected with the early fur trade. For instance, Robert Campbell, upon reaching Tooya Creek on the upper Stikine River, saw a group of Tlingit Indians coming towards him. And he described the meeting as follows:⁶ "We hoisted our flag and made signs to the Indians to come over to us. After much hesitation, they slowly approached and when they were close to us they called out that they were friends; again beckoning to them, they began to cross the bridge (Terror Bridge), the chief, holding out the pipe of peace, which was, accordingly, smoked and passed round."

When introduced long ago into Europe, tobacco at first was used only as a narcotic and a medicine. In other words, it was prescribed by the medical profession for certain ailments. André Thévet discovered it in



South America, and Jean Nicot of Nîmes in southern France (1530) was among the earliest in Europe to experiment with it. Nicot unfairly gave his name, instead of Thévet's, to this American plant: 1. *Nicotiana tabacum*, a variety from Mexico, the West Indies, the northern and eastern parts of South America (unknown north of Mexico, until brought over) — all modern tobaccos are derived from this variety; 2. *Nicotiana rustica*, a hardier plant with yellow flowers, grown by the natives of the eastern parts of the United States and Canada, as far west as the Prairies; and several less important varieties.

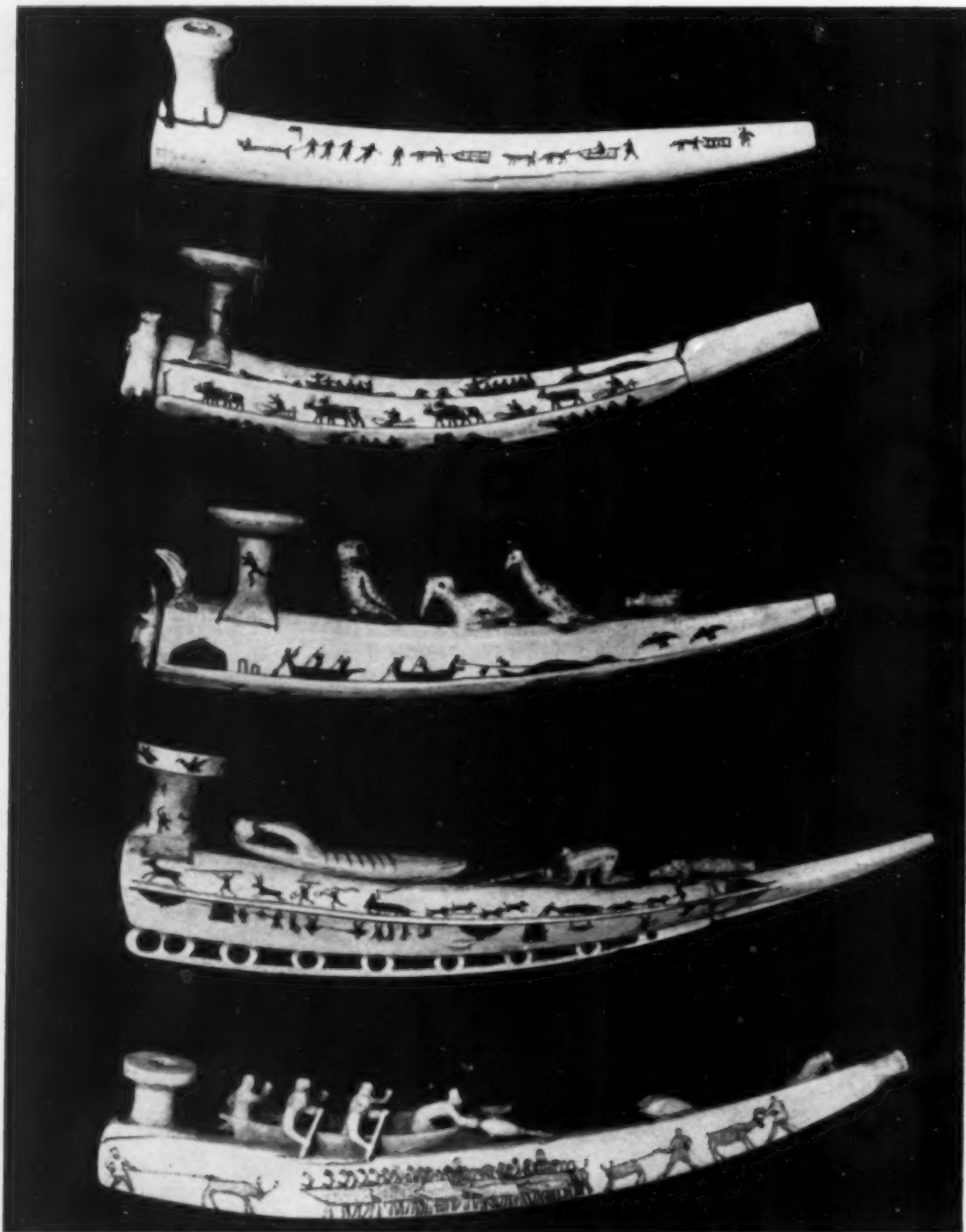
Raleigh was not the first as is usually presumed to introduce tobacco into Great Britain in the sixteenth century. But it was

⁶ From the *Highlands to Fort Garry*, Robert Campbell. 1830-1853. MS. at the National Museum, Ottawa.

Eskimo woman of Chesterfield Inlet, Northwest Territories.

J. B. Mischea.





Bering Sea Eskimo pipes of carved walrus ivory, with engravings about the wild life of the country. These pipes conform to the Malayan and Asiatic pattern for opium pipes (a tiny bowl under a flaring saucer-like platter). In shape, materials, carving and use, they are all more or less similar in Alaska, among the Chukchee of northeastern Siberia, on the Kuriel Islands in China, and among the Malaysians. West of Bering Sea, instead of tobacco, opium is used in a mixture with reindeer hair. It produces intoxication and is accompanied by a vile smell. (Photograph taken in 1939 of ivory pipes in the Walter C. Waters collection, at Wrangell, Alaska.)

he who made smoking a fashionable and gentlemanly art, many years after Sir John Hawkins, in 1565, had made it known to his intimates; and two American colonists, in 1597, contributed to its popularity as a medicinal plant in their motherland.

European colonists, particularly in Virginia and in Canada, soon adopted from the natives the habit of smoking as a pastime. Lescarbot noted it as prevalent in French Canada; and Hawkins said earlier that the French were already using it in Florida.

The early Virginia settlers adopted the custom of pipe smoking at the turn of the sixteenth century. Robert Cotton, an English pipe-maker, practised his craft in Virginia as early as 1608, the year of the foundation of Quebec by Champlain. From that time on the name of Virginia has always been connected with tobacco; and pipes were among the goods handed over to the Indians by the earliest English land purchasers there.

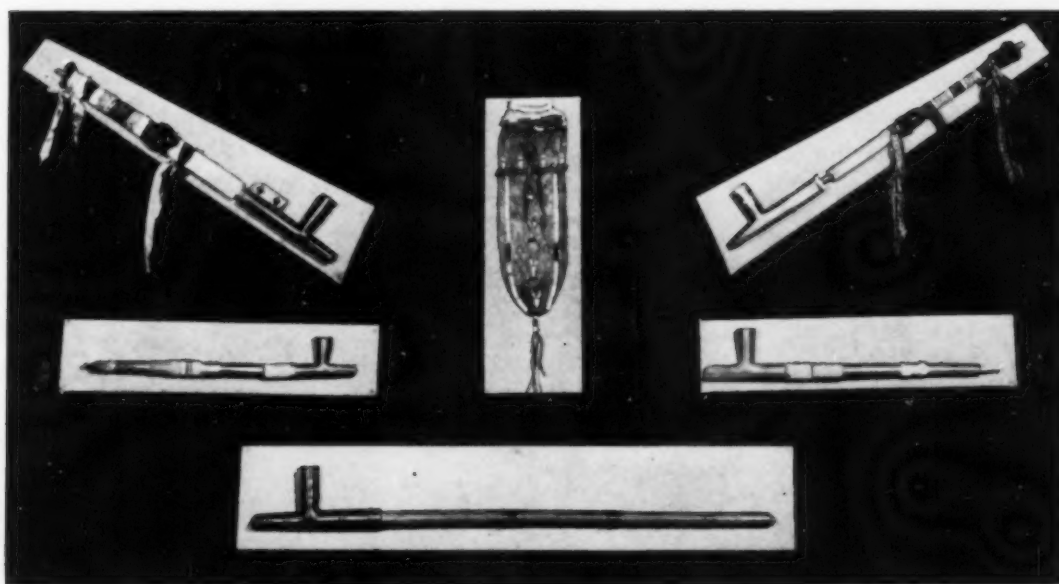
The native custom of using tobacco was not at first as definitely set as the Europeans made it in the course of time and as we know it now. As a substitute or an equivalent, other narcotics were used on the west coast of South America, the principal of which was coca. On the north Pacific coast of our continent, a native cultivated plant

called *windan* (which disappeared before it was identified) was used by the Haidas of the Queen Charlotte Islands, mixed with shell lime, and inhaled through the nostrils while burning in a small container. It became popular also among the northernmost natives of the sea coast.

The *Nicotiana rustica* of the northeastern Woodland Indians was not used in its pure state; it was considered too strong. The Iroquoians of the Great Lakes mixed several ingredients with it — sumac leaves, inner bark of dogwood, etc. — and called it *kinnikinnick*, a name still familiar in some parts.

The *Nicotiana tabacum* of Central and South America, from which our commercial varieties are derived (after passing from Bermuda to Virginia, and from there to Europe), was made into cigars, cigarettes, and pipe tobacco, according to the districts and the ways of smoking. And here we realize how the tobacco smoking complex can be traced back unchanged to its original sources.

Cigar smoking belongs to north and central South America and the West Indies. From the aborigines the custom passed on to the Spaniards and the Mediterranean in the early days and, at second or third hand, to the white people of the southern United States, but never extensively to France or Great Britain.



Western pipes of red catlinite of former Indian days, from the National Museum collection.

Cigarette smoking from the beginning prevailed in Central America and Mexico, although some Mexicans also used pipes for smoking. From Mexico the fashion of rolling one's own cigarettes spread, rather recently, to Europe, and then came back to America; then it became universal, to the point of displacing pipe and cigar smoking in its ancient haunts.

Pipe smoking is purely North American in origin, with its centre of diffusion among the Indians, and its secondary focuses in Virginia, French Canada, and Great Britain. But most of the first pipes were not like those in modern usage.

The Indian pipes were of two types: straight, like a cigarette holder, only longer, a mere tube, flaring out at the far end, to hold the tobacco; and with an inclined bowl, or a vertical bowl. This last was the "elbow pipe" — our modern pipe.

Connected with smoking tobacco we find the practice, prevalent among the north-eastern Algonkians, of digging a hole in the ground, making a fire within and letting it die down; dry tobacco then is burnt on the embers and the smoke inhaled by those squatting over it.

Elbow pipes — which furnished patterns for modern pipes — were so extensively in use among the North American Indians that they have contributed large collections to our Museums. George A. West, an archaeologist, has published two illustrated volumes on this sole topic, entitled *Tobacco, Pipes, and Smoking Customs among the American Indians* (Milwaukee, 1934), and other scholars have devoted much space to it. Linton

has classified elbow pipes into twenty different types.

Another use of tobacco, once both popular and fashionable, was in the form of snuff. Until some years ago, a large snuff box stood on the table of the Senate Chamber in Ottawa: the Senators, walking into the hall, used to dip their fingers in it and walk away with a pinch of tobacco powder. This manner of using pulverized tobacco at first was restricted to the natives of Central America and northern South America, in particular to the Incas of Peru and the Aztecs of Mexico. Like smoking, it was adopted at an early date by the Europeans.

The early diffusion of tobacco was not restricted to America and Europe but included Asia and Africa. Laufer and other writers have shown how early it invaded China and Japan. Its cultivation in China dates back to 1573. Tobacco was already being smoked in pipes by the Japanese in 1614.

In the development of the tobacco trade prejudice was exploited for gainful ends. People in many parts of the world were led to believe that tobacco cultivated in Havana or Virginia was of superior quality to that of other districts. This make-believe is now a thing of the past and tobacco processed in Canada is accepted as second to none.

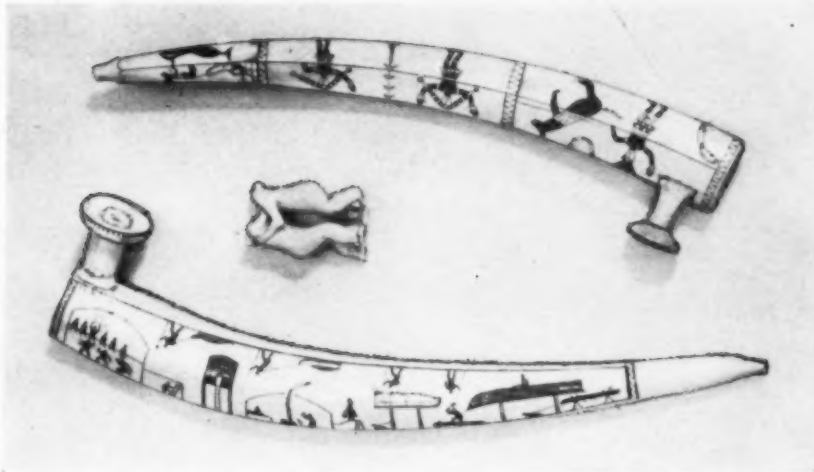
In the days of the North Western fur trade, however, tobacco and accessories were imported into this country, either from Great Britain or the United States. For instance, in the Letter Book XY of the North West Company⁷ we read that in 1800 snuff was delivered to the Algonkin Indians, as well as dozens of manufactured calumets and

⁷ Now preserved in the *Archives du Séminaire de Québec*.



Stone pipe carved by an Indian of the De Pelchis Reservation below Woodstock, N.B., about 1900.

Two walrus ivory pipes of the Asiatic opium type. The one with the bear erect (top) is from eastern Siberia; the other, with skin coat and sleigh on posts, is Alaskan Eskimo. (All pipes on this page at the Museum of the American Indian, in New York.)



"hunters pipes". An entry in the account book for 1802 shows the following order: "Messrs. Lewis Farquharson & Co., Schenectady, *une commande pour du tabac*". In 1821 there were entries for "1 doz. stone calumets, etc." and "Grand Lake outfit: 1 Roll NW Twist tobacco, 97 lb. 6.5.3. 1 Bale 28 Carrots do., 87 lb. 5.12.5".

Yet tobacco was grown for domestic consumption along the St. Lawrence as early as 1700. In a report found in the Archives of the Seminary of Quebec for the period immediately following the Conquest of Canada, we find the statement: "In the Province of Canada now called Quebec . . . the habitants raise and manufacture tobacco."

Pipes and tomahawk-pipes were current articles manufactured in France and Great Britain for the American Indian trade from



Wooden pipe, also of the opium type. Pestle and mortar of wood for pulverizing tobacco mixture. From the Point Hope Eskimo, Alaska.

A wood and lead pipe (bottom) with iron and brass bowl, and metal cleaner. It is of the opium type but for smoking a tobacco mixture. Center, a wood and pewter pipe, of the same type. Both Eskimo, from Kotzebue Sound, Bering Sea.





Old Mary Moon, a Port Harrison Eskimo, finds comfort in her pipe, which has a tin cover, as she sits in her neat igloo scraping a bit of sealskin.

Richard Harrington.

the earliest colonial days. There were many white tomahawk-makers abroad until the North West Company procured its annual supply, after 1800, in the neighbourhood of Montreal. Of this we find ample proof, down to the names of the makers, on the books of the great company.

The natives themselves at one time, in the past century, made long calumets of the Sioux type, out of catlinite (a reddish mineral) which were in vogue for many years and were widely traded. But the white men were not long in catching up with this development in the trade; they improved upon the native article, added pewter or lead inlays to the pipes, and produced fancy pipes which are still sought by collectors.

Clay pipes with inclined bowls for the use of the voyageurs, canoemen, and the Indians, were produced in large quantities by Quebec and other makers. W. and David Bell, potters originally from Scotland, for many years made clay pipes in the St. Charles

valley, on the outskirts of Quebec. Indeed it is still possible to get bundles of clay pipes of recent manufacture.

The cultivation of tobacco has spread all round the world and has increased steadily during the last two or three hundred years. Economic development based on its use and the accessories connected with it has grown proportionately. Some thirty-five or so countries export tobacco and many more grow it. In world trade values, tobacco is among the first fifteen commodities in the raw materials classification. In 1951 Canada produced about 151,200,000 lb. of tobacco; most of this was grown in southern Ontario, but Quebec also had a profitable tobacco crop, and a small quantity was grown in British Columbia.

Had tobacco maintained its reputation as a peace-maker in the world-wide diffusion of the social phenomenon based upon its leaf, it could well have justified its early title of "the divine weed".

Interior view of a greenhouse of the Central Experimental Farm, showing a good stand of flue-cured tobacco seedlings ready for transplanting to the field.

N.F.B.





Kidderminster's new "face-to-face" loom is shown turning out its first "Siamese-twin" lengths of patterned carpet; a knife operating between the two cogs cuts the pile joining the carpets' faces. This loom, a new product of the Barnsley (Yorkshire) textile engineering firm of Wilson and Longbottom, operates in conjunction with the old Jacquard weaving process to produce two continuous rolls of carpet at the same time.

United Kingdom Information Office photographs

Kidderminster Carpets

Kidderminster, centuries-old carpet town of the English Midlands, is having a "refit". New equipment is replacing much of the well-used machinery that has made the name of Kidderminster synonymous with first-rate carpets. One factory has recently installed a battery of looms, each weaving two carpets at the same time. In the final stage of production a cutter peels the sandwich (see opposite) and produces either plain or patterned carpets in two continuous rolls up to thirty-six inches wide. Meanwhile technicians have perfected an entirely new weaving process; the "step-weave" attachment on the Wilton loom (shown below) enables plain carpets to be woven with various embossed patterns. This process, closely guarded by the firm which now uses it to fill orders from the United States (where "carved" Wilton carpets are in great demand) has successfully overcome a problem that has baffled the trade for generations. By these and other innovations many of Kidderminster's twelve carpet factories are steadily pushing up their production and at the same time widening the variety of their designs. From many factories in the town sixty to seventy-five per cent of the carpets produced are now shipped abroad as exports. In the factory showroom in the photograph at right, the firm's New York representative is seen inspecting some of the new designs he will take back with him to the U.S.A.





Left, top to bottom:—

After being dyed, much of the yarn goes straight to the looms, but some of it is stored for later use. Carpet Trades Limited of Kidderminster, where this wool store is situated, use some 1,500 different shades in manufacturing their wide variety of carpets.

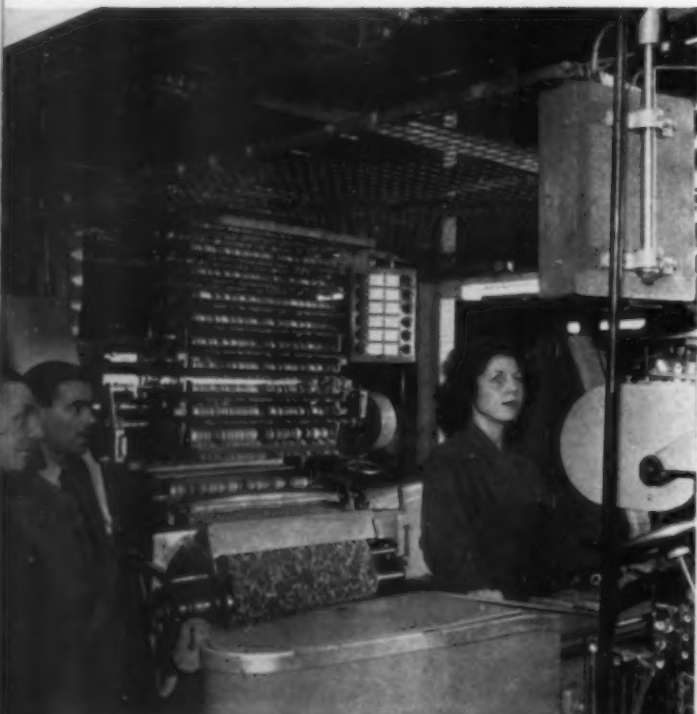
A beam of the warp strands, starched and ready for weaving into the carpet backing, is being removed from a new machine. (The older type can be seen in the background.) This and certain other processes in the manufacture of carpets closely resemble those used in other branches of the textile industry.



Special safety-boxes attached to this pair of Axminster looms (made by Platt Brothers of Oldham) not only stop the machines as soon as a fault develops in the weaving, but indicate which of nine possible things has gone wrong. These attachments enable workers to attend to more than one loom without the risk of a break-down spoiling a carpet.

Below:—

By a variation of the colour combinations in each row of an Axminster design, elaborate patterns and colour effects can be obtained. On this spool-setting machine a girl worker prepares colour combinations to form one line of a "Festival of Britain" rug. She is following the pattern around the drum to her right.



Right, top to bottom:—

Miles of Kidderminster carpets go through these starching drums in endless rolls before they are baled for transit. The two men shown here are stitching on new lengths of carpet to the ends of those already in the machine. From some angles this machine looks like the rotary press of a newspaper office, its rolls of carpet like newsprint twining around the drums.



Fluorescent lighting under glass-topped tables makes the work of these two menders much simpler than it would otherwise be. Their job is to check all carpets that come off the looms and stitch in by hand any tiny holes that may have been left after weaving.



Miles of strands from hundreds of bobbins converge, like a giant spider-web, from this commodious creel for preparatory starching. Later they will be used in forming the warp of the carpet backing. This new creel, entirely of metal, can hold more bobbins than older types. Reserve bobbins are already coupled up so that the machine need not stop for reloading.

Below:—

A close-up view of the oddly-shaped "duck-bill" grippers on an Axminster-type loom. These automatically select the coloured tufts required to make the intricate patterns found on stair carpets and rugs.





The Beacon At Bonavista

by ADELAIDE LEITCH

Photographs by the Author

THE FAMOUS LIGHT of the Inchcape Rock now swings full circle and warns the Atlantic ships at sea, in a red and white lighthouse on Newfoundland's Cape Bonavista.

The surf comes roaring and pounding into the deep rock clefts below it, and the fishing schooners often cruise close under the rocks of Bonavista but, each night, for more than 100 years without fail, the one red and two white lights that make up the beacon have rotated on the cape.

Many Scottish captains and fishermen have blessed that historic light in its original setting. Made in 1816 by Chance Brothers of Birmingham, it was placed on the jagged, 700-foot reef of sandstone rock that lay directly in the path of ships making for the firths of Forth and Tay — the notorious "Inchcape Reef."

The light itself was brought to Newfoundland in 1842, and was placed in the 100-foot-high lighthouse erected at Bonavista in 1910. There, today, its great shining eye overlooks the twin great bays of Bonavista and Trinity.

Today's keeper of the Inchcape Light is Newfoundlander Hubert Abbott, a friendly man who speaks with the accents of Newfoundland so thick in his voice that sometimes he is almost incomprehensible to an outsider. He has been at his job more than three and a half decades and, before that, he

was one of the schoonermen who sailed past the forbidding cape.

His shift is 24 hours long — turn about with his assistant Harry Russell. Each night, from sunset to sunrise, one of the men must climb the long, circular stairs that curl around inside the light tower and "wind up" the light by means of a hand crank. A weight below the floor does the rest, unwinding the great spring slowly for the next two hours so that the six huge lamps — making up three lights — rotate at the rate of once every 30 seconds.

The beacon of Bonavista, with its gleaming reflectors and long-mantle kerosene lamps, throws its light fifteen miles to sea. The inscription of its origin is still clearly etched on the lamps — "Focus .4 inches, 1816, Chance Brothers and Company Limited, Lighthouse Works, Birmingham." The machinery that runs the light carries the name of "De Ville and Company, 367 Strand, London, England."

Although the lighthouse with its bands of scarlet and white looks as modern as a 1953 Christmas card, the paint is a camouflage for age. The walls are of nine-inch-thick timbers and, into the wall of the circular stairway, is built an ancient oven — now used as a storage cabinet. An ancient spy glass is occasionally passed off on the unsuspecting tourist as the very one with which John Cabot sighted Newfoundland back in the fifteenth century. His landfall, however, was not actually on the jagged rocks of the cape but, reportedly, in a small, sheltered cove farther along the coast.

Beside the Bonavista Lighthouse, and co-worker with the light, the cape's foghorn bellows its warning to ships at sea. The rocks below pick up the hoarse and eerie

At top:—In the red-and-white lighthouse on Newfoundland's Cape Bonavista, the light from the Inchcape Rock to-day warns ships on the Atlantic.



Under the lighthouse, the Atlantic comes boiling over the rocks that could wreck a ship. Newfoundland schooners often come close to the Cape but, thanks to the light and the foghorn, their distance can be safely judged.

"Beeeee-Ohhhhhh" until the sea itself seems to be making the sound.

About seventy miles north-by-west of St. John's, the Bonavista Light can be reached only by a ten-hour train trip, or an all day jaunt by car from the capital. Nevertheless, every summer a couple of hundred cars wind their way up the rocky road from the town of Bonavista, port of entry to one of the oldest fishing stations of Newfoundland. The children of the lighthouse keepers appoint themselves official tabulators of the visiting cars, which have come from Canada, United States and Newfoundland — with a liberal sprinkling of misty-eyed English people eager to see "their" Inchcape Light.

But the real traffic to Cape Bonavista is made up of the fishing schooners and coast-wise steamers of Newfoundland and Labrador, whose safe passage is assured by the faithful Beacon of Bonavista.

It was an Abbot who first placed the warning bell on the Inchcape rock—Southey's "worthy Abbot of Aberbrothok." Present keeper of the light, Hubert Abbott (right) checks the light with his assistant, Harry Russell. The huge reflectors throw the beacon 15 miles to sea, sunset to sunrise, every night of the year.





Traprain Law, reputed dwelling place of legendary King Loth. Distant hill at left is North Berwick Law.

Legend and History in East Lothian

by **JOHN S. CAMPSIE**

Photographs by the author

ON THE SOUTHERN shore of the Firth of Forth, where the Firth widens to merge with the North Sea, lies the Scottish county of East Lothian — formerly Haddingtonshire. The land rises gradually from the coast in a series of undulations until, some 15 miles inland at the widest point, it sweeps suddenly upwards to the bleak, heather-covered expanses of the Lammermuir Hills. For centuries in times past the narrow coastal plain thus formed provided the principal route by which invading armies swept back and forth between Edinburgh and the English Border so that it is now as rich in historical relics and romantic associations as any part of the country. In addition, it possesses a smiling, pastoral charm which is apt to surprise those who think of the Scottish landscape as something invariably "stern and wild".

The soil of the coastal plain is a rich red loam which makes the county one of the

most fertile and prosperous mixed-farming areas in Britain. Here and there it is broken abruptly by out-croppings of igneous rock which, rising to six or seven hundred feet, provide prominent landmarks such as North Berwick Law and Traprain Law visible for many miles around.

The word "law" means a hill or summit and, since many of these natural vantage-points were once the sites of signal-beacons, may be connected with the Scottish word "low" meaning a flame. Traprain Law, in particular, has many historic connections. Near its base stand the ruins of Hailes Castle once the property of James, fourth Earl of Bothwell, who was responsible for the murder of Darnley, the second husband of Mary Queen of Scots. Shortly after the murder, Bothwell abducted the Queen (with her own consent and connivance, it is generally believed) and took her to Dunbar, preparatory to marrying her himself. On the

way they rested at Hailes Castle, and it is from this incident that the Law is said to have acquired the name Traprain — a combination of the two French words *attraper* and *reine*.

On the top of Traprain Law there are still to be seen the remains of constructions dating back to the Bronze Age; but the most picturesque part of its story belongs to the sixth century of the Christian era. Then, so tradition tells, it was the dwelling-place of the legendary King Loth, brother-in-law of King Arthur, from whom the Lothians derive their name. King Loth had a beautiful only daughter, Theneu, who fell in love with a shepherd boy. Their love remained a secret until it was discovered that the Princess was about to bear a child. Furious at this blot upon the royal honour, the King had his daughter taken to the top of Traprain Law and hurled over the precipitous cliffs on its southern side. By some chance, the Princess was not killed. Friends found her lying unconscious where she had fallen, but they feared the King's anger too much to do any more than cast her adrift in an open boat on the Firth of Forth. Wind and tide carried her across the Firth to Culross in Fife where she gave birth to a son who later became St. Mungo, the patron saint of Glasgow and a pioneer of Christianity in Britain. St. Mungo lived to an old age and died about the year 603.

The legend goes on to relate that King Loth was shot with an arrow by the shepherd boy near the place where his daughter had fallen, and a vertical monolith or "standing stone" some 300 yards from the foot of the Law is still known as the Loth Stone and is said to mark the King's grave. In 1861, farm labourers digging beside the stone unearthed an ancient stone coffin containing some fragments of bone — perhaps the mortal remains of Loth himself.

An even more remarkable discovery was made in 1919 when archaeologists dug up on the top of the Law a hoard of Roman silver vessels together with some coins of the late fourth century. Some of the silver had already been cut up in readiness for the

melting-pot, and the evidence suggested that it had been the hastily concealed haul of a band of Saxon pirates. The Treasure of Traprain, as it is called, is now on view in Edinburgh's Queen Street Museum.

Being mainly an agricultural area, East Lothian has no great centres of population. Of its three Royal Burghs — the title denotes the conferment of certain privileges by royal licence in olden times — none has more than 5,000 inhabitants.

The Royal Burgh of Haddington, the county capital, is now a quiet market town, but from the twelfth century when King William the Lion had his palace on the site where the county buildings now stand, through all the centuries of strife between English and Scottish armies, it was spared none of the ravages of war. Such was its strategic importance that during the eighteen months' siege of 1548-49, when an English force under Sir James Wilford held it against a combined force of Scots and French, Lord Grey, the governor of Berwick, wrote, "We think the keeping of Haddington to be the winning of Scotland".

In the midst of all the turmoil of this siege, the Scottish Parliament convened in



The Loth Stone, said to mark the burial place of King Loth.



the Abbey which stood just east of the town and negotiated with the French the fateful treaty by which Mary Queen of Scots, then still a child, was betrothed to the French Dauphin.

From the main part of the town, situated on the west bank of the River Tyne, an ancient stone bridge leads into the suburb of Nungate where an oak tree planted at the wish of Thomas Carlyle marks the birthplace of John Knox. The scene is dominated from across the river at this point by the graceful pre-Reformation church of St. Mary which remains the parish church to this day. In the choir of the church a flat tombstone shows where Jane Welsh Carlyle lies buried in her father's grave. It was at her home in Haddington that she was first introduced to her famous husband by their friend Edward Irving who at one time had hoped to marry his gifted pupil Jane himself. A plaque inset in the stone bears a touching tribute from Thomas Carlyle to his wife's "soft invincibility, capacity of discernment and noble loyalty of heart".

A mile to the south of Haddington lies the lovely wooded park-land of Lennoxlove — formerly Lethington. In the middle of the park, commanding a fine prospect of the distant Lammermuirs, is set a fifteenth century keep or fortress where once lived William Maitland of Lethington, the famous Secretary of State of Mary Queen of Scots, of whom England's Queen Elizabeth said that he was "the flower of the wits of Scotland". Today the keep, together with a seventeenth century mansion adjoining its eastern side, is the home of the Duke of Hamilton, Scotland's premier peer and Lord Steward of the Royal Household, who achieved fame when, as Marquis of Douglas and Clydesdale before his succession to the

Examples of Scottish domestic architecture. Above, the village of Stenton shows pantile roofs and crow-stepped gable. Below is the doorway of the Hamilton Dower House at Prestonpans; the house is said to have been used by Prince Charlie before the battle of Prestonpans.



The Nungate Bridge, Haddington. The bridge, which spans the River Tyne, probably dates from the seventeenth century. It is in a perfect state of preservation but is now used only by foot passengers.

Lennoxlove, formerly Lethington, where William Maitland lived, now the home of the Duke of Hamilton. The portion on the left was a fortress built in the fifteenth century. The rest was built by the Duke of Lauderdale in the seventeenth century.





A scene in the New Harbour, Dunbar. Purchasers appear immediately when a fishing boat unloads its catch.

Dukedom, he led the expedition which flew over Mount Everest in 1933.

Southwards from Lennoxlove a road leads past stately beech woods to the sleepy tree-lined village of Gifford. An arched gateway at one end of the village gives access to the grounds of Yester House where, perched on top of a steep rock, stand the massive ruins of the stronghold of a thirteenth century wizard, Sir Hugo Gifford of Yester. Beneath the ruins lies the eerie Goblin Hall, an underground vaulted chamber of solid masonry measuring 37 feet by 13 feet, built, so legend declares, by Sir Hugo's magic arts without the aid of human hands. Sir Walter Scott recalls the legend of Sir Hugo in "Marmion":

A wiser never, at the hour
Of midnight, spoke the word of power:
The same whom ancient records call
The founder of the Goblin Hall . . .
Of lofty roof, and ample size,
Beneath the castle deep it lies:
To hew the living rock profound,
The floor to pave, the arch to round,
There never toil'd a mortal arm,
It all was wrought by word and charm.

No less prominent than Haddington in the annals of Scottish history is the Royal Burgh of Dunbar near the eastern end of the county. It was once a seaport of some importance providing a valuable base where men and supplies could be landed from the sea in time of war. Today its two picturesque harbours, approached by steep, narrow streets, are suitable only for small craft, a few of which are employed in catching lobsters and crabs. In summer the town is a popular holiday resort.

On a rocky promontory beside the new harbour, the crumbling remains of Dunbar Castle span a natural cleft in the rock. The castle is intimately connected with the tragic story of Mary Queen of Scots, for it was here that she took refuge at many of the crises of her troubled life. After her departure from Scotland, Parliament ordered that the castle be demolished, but Dunbar itself had not yet seen the last of war. In 1650, Cromwell, retreating from the neighbourhood of Edinburgh, took his stand here against the pursuing Scottish Covenanters commanded by David Leslie.

Cromwell's situation was not a favourable one. "We are upon an engagement very difficult" he wrote to the governor of New-castle on the day before the battle. But Leslie, in his haste to join battle, repeated the tactical error which had robbed a Scottish army of victory against Edward I, "the Hammer of the Scots", in a battle fought three and a half centuries earlier on the same site. Rashly abandoning his advantageous position on the high ground, he sent his men down to the attack. For a short time the battle swayed in the balance amid cries of "The Covenant" from the Scots and "The Lord of Hosts" from Cromwell's men. But soon Cromwell's voice was heard above the din: "Let God arise, and let His enemies be scattered", and then a little later: "They run, they run, I profess they run".

An interesting sequel to the Scottish defeat was the sending of the Scottish prisoners to America where they established the Scots Charitable Society of Boston, the earliest Scottish society in America. Dunbar also

has other American associations which are recalled by a semicircular battery built on the rocks at the entrance to the old harbour. In 1779, Paul Jones appeared outside the harbour with five ships and lay there for several days; and two years later the American Captain Fall tried to carry off a vessel from the mouth of the harbour but was repulsed. These incidents caused the people of Dunbar to look to their seaward defences, and the battery was built in 1781 as a protection against such raids.

After his great victory, Cromwell returned westwards. The military operations which followed included the siege of Tantallon Castle near the village of Whitekirk whose thirteenth century church, though burnt by militant suffragettes in 1914, has been fully restored and still embodies most of the original structure.

Whitekirk and the nearby village of Tynninghame are reputed to have been the scene of many of the labours of St. Baldred, a disciple of St. Mungo, who introduced Christianity into East Lothian in the sixth century. The church was built in 1296 by the Countess of Dunbar in gratitude for a miraculous healing at a holy well for which the place was noted. The fame of the well and of its miraculous powers spread far and wide and in 1386, Clement VII, the antipope then recognized in Scotland, issued a "Relaxation of enjoined penance to penitents who annually visit and give alms to the fabric of the church of St. Mary, Qwytkirk . . . renowned for miracles wrought by Jesus

Christ, through the intercession and merits of St. Mary". Pilgrims came from all countries, numbering 15,653 in the year 1413 alone.

A mile or two north of Whitekirk, the gaunt bastions of Tantallon Castle stand guard across the base of a narrow promontory jutting out into the sea. With its walls of solid masonry 12 feet thick, its lofty battlements still accessible by winding staircases, its loop-holed stone chambers and its gruesome dungeon far beneath, Tantallon preserves vividly the authentic atmosphere of past times. From the fourteenth until the seventeenth century it was a stronghold of the Douglasses, and it was here that Sir Walter Scott set the dramatic scene of Lord Marmion's parting from the Earl of Douglas before the former met his doom on Flodden Field.

A few months after the battle of Dunbar, Cromwell sent Colonel Monk to capture the castle and after a twelve-day artillery bombardment it fell. Monk dismantled it to a point where it was of no further military importance, but it was used as a hiding-place by smugglers for many years afterwards.

Tantallon commands a fine view of the Bass Rock which rises in sheer precipices to a height of 420 feet some two miles off the coast. Tradition has it that the Bass was once the dwelling of St. Baldred, and a ruined chapel on the Rock still bears his name. In 1671 the place became a prison where Covenanters were confined. Now its

St. Mary's Church, Whitekirk. Built in 1296 near a holy well of miraculous powers, it was for centuries the goal of thousands of pilgrims.



only human inhabitants are the staff of the lighthouse and it is preserved as a bird sanctuary. In summer, boats from North Berwick make a tour of the island, sailing close under the towering cliffs and giving passengers an unrivalled view of the gannets, puffins and other sea-birds which make their home on the rocky ledges.

The Royal Burgh of North Berwick lies a further three miles west of Tantallon in the shadow of the conical North Berwick Law. Here the craggy cliffs give way to low sand dunes which provide such a wealth of excellent golf courses that East Lothian has been

nicknamed "the holy land of golf". All this stretch of coast was a favourite boyhood haunt of Robert Louis Stevenson, and he returns to it in the pages of *Catriona*. Here, too, in the dunes between the villages of Dirleton and Gullane, he set the scene of his romantic little tale *The Pavilion on the Links*.

The best-known episode in North Berwick's history is a macabre one, for the town was once famous as a meeting place of witches who were numerous in East Lothian. The witches were organized in covens of twelve, each coven being presided over by a minister known as the "deil" or devil.



Dirleton Castle, a victim of Cromwell's cannon. The oldest parts of the structure, including the circular tower on the right, were built in the thirteenth century.



Tantallon Castle and the Bass Rock. The Castle was reduced by Cromwell's men after the battle of Dunbar. The Rock is now a bird sanctuary.

Many a time the covens met in the old St. Andrew's Church by the harbour to practise their gruesome rites and to be preached to by the notorious deil, Dr. Fian. In 1589, when King James VI (later James I of England) was returning from Denmark with his bride, a storm arose in which the royal couple narrowly escaped shipwreck. The storm, it was said, had been raised by a conspiracy of the North Berwick witches and they were brought to trial and condemned to be burnt at the stake. It is recorded that the King "tooke great delight in their examinations" during which many strange confessions of the practice of witchcraft were made, no doubt providing material for James' own *Daemonologie* published some years later.

The low-lying coast to the west of North Berwick is dotted with picturesque villages

of which Dirleton, drowsing around its triangular village green, is particularly noted for its beauty. The battered but still impressive walls of Dirleton Castle dominate the scene and bear further testimony to the destructive power of Cromwell's cannon. Surrounded now by sloping green swards and delightful gardens, the castle is a place to delight tourist, horticulturist and antiquarian alike.

The same indeed might be said of East Lothian as a whole. So varied is its appeal that it would be difficult to find a single descriptive phrase to do justice to it: but as Kent has come to be known as "the garden of England", so East Lothian has been called no less aptly "the garden of Scotland", and it is perhaps by this name that it is best remembered.

EDITOR'S NOTE-BOOK

The Harringtons (*Paddling Down the Red Deer River*) are ever on the search for new aspects of the Canadian scene to write about and photograph — and never fail to find them. To gather material for this story they made a trip in an aluminum canoe down the Red Deer River. — Madge Macbeth (*The Netherlands Windward Isles*), with nine books and countless stories and articles to her credit, needs no introduction as a Canadian author. Her last book, published this year, is *Over My Shoulder*, reminiscences of life and people in Ottawa. Mrs. Macbeth likes to spend part of the winter travelling and has tales to tell of many delightful places. — Since Marius Barbeau (*Tobacco*) retired, not long ago, as ethnologist and folklorist at the National Museum of Canada, he has been more fully occupied than ever in research in the several fields in which he is a recognized authority, in visiting academic institutions in Canada and other countries and in maintaining his impressive literary output. Graduate of Laval University, Oxford, and the Sorbonne, Dr. Barbeau joined the staff of the National Museum in 1911. — Adelaide Leitch (*The Beacon at Bonavista*) is a roving freelance writer and photographer. She spent a year in Newfoundland and is now breaking fresh ground in the northwest. — John S. Campsie (*Legend and History in East Lothian*) was born in Malta, received his later education in England and graduated from Oxford University. With the R.A.F. during the war, he trained as a pilot in Canada. Later, he returned to teach in Canadian schools. Two years in Scotland followed, during which he lived in East Lothian, and he is now studying at the graduate school of the University of Toronto.

AMONGST THE NEW BOOKS

The Root of Europe

by M. Huxley

(The Geographical Magazine, London, Clarke Irwin Co. Ltd., Toronto, \$3.50)

This book, edited by Michael Huxley, consists of chapters by seven authors who survey the various civilizations that have come under the influence of Greek culture. Dealing in broad geographical and historical relationships the authors trace its diffusion into Western and Eastern Europe and show that some of the differences now represented on either side of the Iron Curtain have very ancient roots. At the same time



UN-FROZEN FOODS

WAY UP in Alaska, within the Arctic Circle, one 70-year-old gardener has found how to get his full quota of home-grown vegetable vitamins. He works gardening wonders by "trapping" the brief summer sun with reflecting aluminum foil barriers, set up behind his vegetables.

This Arctic application takes a leaf out of the book of modern builders and others who make use of aluminum's remarkable reflecting and insulating properties. Demand for Canadian aluminum in foil, sheet, rod, tube and other forms today totals one billion pounds a year. When Alcan completes its present expansion programs, supply will be further increased. Aluminum Company of Canada, Ltd. (Alcan).

they leave no doubt that contact with this culture is not a monopoly of the West.

Although written by experts *The Root of Europe* is easy reading and admirably illustrated with over 100 plates and 17 valuable maps. The combination of maps, plates and lucid writing produces a very attractive book. In times when the reading and listening public is exposed to much material of little authority concerning the chasm between East and West, this book provides the steady influence of an expert appraisal of the cultural background.

J. D. CHAPMAN

* * *

The Broads

by R. H. Mottram

(The Regional Books, R. H. Hale Ltd.,

Ryerson Press, Toronto, \$4.00)

To the reader searching for the present character of the Broads in East England this book will be a disappointment. For one already familiar with its landscapes and looking for historical background, however, Mr. Mottram provides the answer in a volume which is pleasantly illustrated with new and old photographs. A native and long time resident of the region the author traces the historical development of the Broads as seen through his own eyes.

A chapter on "The Natives" gives a clear insight into the character of some formerly typical Broadsmen — the eel catchers, the wherry-men and punt gunners. The chapter by E. A. Ellis on "Wildlife in Broadland" is the first to give more than a chance mention of present conditions, after which the reader is taken back to the earlier decades of the century with a chapter on "Fleet of Sail". Concluding with the future of the Broads and some views on their function as a National Park, Mr. Mottram leaves the reader with much of their late nineteenth century impressions, something of their future, but little of their present characteristics.

J. D. CHAPMAN

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Next-Year Country

by Jean Burnet

(University of Toronto Press, \$4.00)

Reflecting the perennial optimism of the western farmer, *Next-Year Country* is an inspired title for a book based on the Hanna district of east-central Alberta. This area is one of "unpredictable variability near the margin for profitable cultivation". Its economy, depending almost entirely on wheat, is subject to the wide price variations in that commodity in addition to all the natural hazards of dry-belt farming. The soil is fertile, capable of producing grain of the highest quality, but a crop may be demolished by wind, dust-storms, hail, grasshoppers, frost or, above all, drought. Although 20 inches of rainfall is considered the lower limit for humid-area agriculture, Hanna's average annual rainfall is only 13 inches, so low that only a few inches makes the difference between a good yield and failure. Records since 1913 show that the good years were few and the lean ones many. It is only the hope of next-year's bumper crop that keeps the farmer going.

It has not kept them all going. Tracing the area's development from the time it was first opened to settlement in 1909, Dr. Burnet shows continued failure in adjustment to physical environment. One racial group, German-Russian settlers who came after World War I, brought their own culture and close social structure which seemed to take root successfully, but there are signs of weakening in the second and third generations. A new form of land tenure that is part leasehold

and part ownership has developed, over 65 per cent of the land having reverted to the Crown through debt. Though palliative, this system has not solved any of the fundamental problems.

Dr. Burnet's factual story is as fascinating as a novel. Brilliantly organized, and written with striking clarity, the work never loses touch with human values. In a devastating investigation of Hanna itself, the town is shown to be split into classes and cliques at war with each other and at odds with their rural neighbours. In marked contrast is Oyen, a village of 326 people (by the 1941 census), harmoniously integrated into its rural community both as service and social centre of the community life. But the village-centred rural community tends to vanish as improved transportation and better roads lead to town or city. And though Hanna is "singularly lacking in cohesion", similar studies elsewhere indicate that the cleavage between town and country is normal rather than exceptional.

Though not altogether typical, the Hanna area was chosen for study because it promised to react more strongly than a better-established district might do, to the impact of extremely variable physical factors upon community life. This searching analysis admirably fulfils its purpose of revealing the *kinds* of disturbances present in the rural social organization of Alberta, but its findings are capable of much more general application. The problem of deterioration in rural society, upsetting the balance between the rural and the urban ways of life, presses in some degree upon nearly every modern community.

WALLACE R. JOYCE